CHAPTER 3

Proposed Action and Alternatives

This chapter describes the Proposed Action, three action alternatives and the No Action Alternative. It presents descriptions of the project activities associated with the Proposed Action and alternatives. It identifies the environmental protection measures (EPM) and provides an impact summary comparing the alternatives analyzed. The chapter also includes a discussion of alternatives initially evaluated, but later eliminated from detailed study.

Figure 3-1 graphically compares the general layout of the Proposed Action and alternatives that are broken into route segments (A through H). Some segments are common to several alternatives. Figure 3-2 details the 10 route segments. Each segment is divided into one-mile sections marked by numeric mileposts (MP), each segment beginning with MP 0.0. Mileposts are estimated distances.

Table 3-1 provides a summary of the Proposed Action and alternatives with associated specific operations including the number of new structures, replacement structures, and abandoned structures; miles of new access roads; and acres of land that would be disturbed. Table 3-2 provides a summary of new ground disturbance for the Proposed Action and alternatives. Figures 3-3 through 3-7 illustrate the location of the Proposed Action and associated route segments and MPs. Appendix E contains aerial photos of the line segments and mileposts.

3.1 PROPOSED ACTION

The Proposed Action would include: 1) reconductoring the existing single- and double-circuit, 230-kV transmission line from the Elverta Substation to the Tracy Substation; 2) constructing a new double-circuit, 230-kV transmission line paralleling the existing double-circuit, 230-kV line from the O'Banion Substation to the Elverta Substation; and 3) realigning portions of the existing Cottonwood–Roseville single-circuit, 230-kV transmission line north of Elverta Substation.

Below is a detailed description of elements of the three major activities (reconductoring, new construction, and realignment) associated with the Proposed Action. Some or all project activities also apply to the alternatives. Descriptions are provided later in this chapter. Figure 3-1 presents a schematic comparing the general layout of the existing system, the Proposed Action, and each alternative.

Reconductoring

Western would reconductor 72.6 miles of single- and double-circuit, 230-kV transmission lines (Segments C, D, and E) between Elverta Substation and Tracy Substation. Reconductoring would be completed in two phases to minimize service disruption. The first 11.2 miles (Segment C) would be a double-circuit, 230-kV transmission line between Elverta Substation and Hurley Substation. The second 61.4-miles (Segments D and E) between Hurley Substation and Tracy Substation would include a combination of either two single- or one double-circuit transmission line. From Hurley Substation (Segment D, MP 0.0) to Hedge Substation (Segment D, MP 6.8), there would be one double-circuit, 230-kV transmission line. Hedge Substation to Tracy Substation would include a combination of either two single-circuit, 230-kV transmission lines, or one double-circuit, 230-kV transmission line. Western would improve the fiber-optic communication system where necessary, replacing one of the two existing shield wires with a fiber-optic cable.

New Transmission Line

Western would construct a new, 26.6-mile, double-circuit, 230-kV transmission line (Segments A_1 and B) between O'Banion Substation and Elverta Substation. It would parallel the existing O'Banion–Elverta double-circuit transmission line. This action would require a new right-of-way (ROW) (125 feet wide) for the transmission line. Additional access roads (15 feet wide) may be required.

Realignments

Realignments are proposed for two locations. Realignment is defined as a route deviation of an existing transmission line. The route deviation would be sited outside of the existing ROW. The purpose for the realignments would be to reduce impacts to land use. One realignment for the Proposed Action would call for the construction of a new transmission line (2.8 miles) parallel to the existing O'Banion–Elverta transmission line, approximately 17 miles southeast of the O'Banion Substation (Segment A_1 MP 17.4 to 20.2). The realignment would avoid encroachment to the Pleasant Grove Cemetery. Conductors for the existing O'Banion–Elverta transmission line would be transferred to the west on 14 proposed new structures. The proposed new conductors would be strung along the existing structures to the east. This would avoid transmission line conductors crossing one another. Figure 3-8 illustrates this realignment.

The second realignment would occur on Segment G. Western currently operates two transmission lines (2.8 miles) in adjacent ROWs (O'Banion–Elverta double-circuit, 230-kV line and Cottonwood–Roseville single-

Table 3-1. Activities for the Proposed Action and Alternatives

Alternative	Specific Operations
Proposed Action: New Transmission O'Banion Substation to Elverta Substation; Realignments; Reconductoring Elverta Substation to Tracy Substation Construct 26.6 miles of new 230-kV double-circuit transmission line from O'Banion Substation to Elverta Substation (Segments A_1 and B) Realign 230-kV single-circuit transmission line. (Construct transmission line around the Pleasant Grove Cemetery, construct 5 miles of Segment G; abandon 3.6 miles of Segments F and H) Reconductor 72.6 miles of 230-kV double -circuit transmission line from the Elverta Substation to Tracy Substation (Segments C, D, and E)	107.8 miles right of way length 167 new structures 163 existing structures replaced 17 structures abandoned 28 miles of new access roads 581 acres short-term disturbed 66 acres long-term disturbed
Alternative 1: Reconductoring O'Banion Substation to Tracy Substation Reconductor 99.2 miles of 230-kV double-circuit transmission line from the O'Banion Substation to Tracy Substation (Segments A, B, C, D, and E)	99.2 miles right of way length 199 existing structures replaced 85 acres short-term disturbed 0 acres long-term disturbed
Alternative 2: New Transmission O'Banion Substation to Elverta Substation and Realignments Construct 26.6 miles of new 230-kV double-circuit transmission line from O'Banion Substation to Elverta Substation (Segments A_1 and B) Realign 230-kV double-circuit transmission line (Construct transmission line around the Pleasant Grove Cemetery, construct 5 miles of Segment G; abandon 3.6 miles of Segments F and H)	35.2 miles right of way length 167 new structures 17 structures abandoned 28 miles of new access roads 515 acres short-term disturbed 66 acres long-term disturbed
Alternative 3: New Transmission Elk Grove Substation to Tracy Substation Construct 46.2 miles of new 230-kV double-circuit transmission line from Elk Grove Substation to Tracy Substation (Segment E_1)	46.2 miles right of way length 225 new structures 47 miles new access roads 855 acres short-term disturbed 108 acres long-term disturbed
No Action Operation and maintenance unchanged. Western would not build additional transmission lines or substations (existing Segments A, B, C, D, and E)	0 miles right of way length 0 new structures 0 structures abandoned 0 miles of new access roads 0 acres short-term disturbed 0 acres long-term disturbed

Source: Original 09-10-02

circuit, 230-kV line) between Keys Road and Elverta Substation along Segment B (MP 0.0 to 2.8). The total width of the two adjacent ROWs is 225 feet. There is no space to expand the ROW to add a third transmission line without impacting residences. Due to these ROW constraints, Western would realign five miles of the Cottonwood–Roseville single-circuit, 230-kV transmission line (Segment G). A new transmission line between Keys Road and Elverta Substation (Segment B) would be constructed in place of the realigned Cottonwood–Roseville line. The realignment (Segment G) would deviate from the existing Cottonwood–Roseville transmission line at Keys Road and traverse eastward approximately 1.7 miles using new 125-foot-wide ROW along the south side of Keys Road. There it would angle south, paralleling the west side of the existing Pacific Gas & Electric Company (PG&E) Rio Oso–Brighton double-circuit, 230-kV transmission line for 3.3 miles. At that point, it would rejoin the existing route of the single-circuit, 230-kV Cottonwood–Roseville transmission line. This would eliminate the need for approximately 1.4 miles of Segment F and 2.2 miles of Segment H of the existing Cottonwood–Roseville transmission line that would be abandoned in place. Figure 3-4 details the realignment.

3.1.1 Reconductoring for the Proposed Action

Reconductoring would involve replacing existing conductors with higher-capacity conductors. Reconductoring would increase the thermal rating of the

Table 3-3. Continued Typical Assumptions for Personnel and Equipment Required

Tasks	Staffing[a, b]	Equipment
Structure assembly	6 to 12 linesmen/groundsmen and crane operators	1 to 3 hydrocranes 4 to 6 pickup trucks 1 to 3 flatbed trucks 1 compressor
Guard structures	3 linesmen/groundsmen	1 auger 1 tractor 1 pickup truck
Wire stringing	20 to 25 linesmen/groundsmen	2 pullers 2 tensioners 4 reel stringing trailers 1 materials truck 2 dozers 5 to 6 pickup trucks
Cleanup	2 to 4 laborers	1 bulldozer w/ripper 1 grader 1 front-end loader 1 tractor/harrow/disk 1 pickup truck

Source: Original September 2002
[a]Approximate total work force at one time: 50 to 70 individuals.
[b]Approximately 40 to 50 percent of work force is assumed local hire.

applicable criteria, including California Public Utilities Commission (CPUC) General Order 95. Self-supporting steel lattice structures exist for both single and double-circuit, 230-kV lines. These structures would be evaluated to determine if structural changes or replacement are required to support new conductors and shield wire.

3.1.1.2 Right-of-Way Requirements

The ROW requirements for reconductoring would be minimal and limited to the construction area. New ROW would not be required for replacement structures or for stringing new conductors. Any land temporarily required for construction (such as conductor pulling sites, material and equipment storage areas) outside the existing ROW would be by agreement between the construction contractor and affected landowners.

ROW vegetation would be selectively cleared to provide suitable access for construction equipment and adequate structure and conductor clearance. Shrubs and trees would be cleared or trimmed from access roads, structure sites, pulling sites, and material storage yards.

3.1.1.3 Detailed Siting

Facility siting and the location of related activities would be selected to reduce or eliminate impacts to existing and planned land uses and to avoid or minimize disturbances to landowners and sensitive environmental areas. Landowners would be consulted for siting material storage yards and access roads.

3.1.1.4 Circuit Outage

During construction, Western would need to de-energize portions of the transmission line and adjacent lines for public and construction crew safety. Western would plan and coordinate outages with its customers to minimize temporary impacts.

3.1.1.5 Access Roads

Wherever possible, access to each structure would be within and along the existing ROW. Temporary access roads (15 feet wide) may be required for construction. Existing access roads would be used where practical; some may need to be rebladed. New temporary access roads would be routed to minimize environmental impacts to water, soils, habitat, vegetation, landowner improvements, and other identified sensitive resources. Gates and fences disturbed or damaged from access road construction would be restored to their preconstruction condition. Temporary access roads would also be restored.

3.1.1.6 Structures

Most existing transmission line structures would not require replacement. However, some structures or hardware (such as insulator strings) may be replaced. Construction crews would detach the existing conductors from insulator strings and replace the old insulators. The new conductors would be attached to the insulators during the stringing process.

Existing structures that require replacement would be dismantled. Footings of the dismantled structures would be left in place. Footings for the new structures would be excavated, casings placed, and concrete poured in casings. Structures would be assembled, erected, and attached to foundations. Strings of insulators would support the conductor. Each structure would require a temporary land disturbance of about 0.23 acres (100 feet by 100 feet). Excess fill material would be spread evenly around the structure base to provide positive site drainage. An estimated 415 existing double-circuit, 230-kV structures would be involved in reconductoring the Proposed Action along Segments C, D, and E. Of these, approximately 163 structures would be replaced. Figures 3-9 and 3-10 depict typical double-circuit, 230-kV transmission structures.

3.1.1.7 Conductor Stringing

Flatbed trucks would carry reels of conductor to the various conductor-pulling sites along the ROW. Other equipment would include stringing trailers, tensioning machines, pullers, bulldozers, and several trucks, including a bucket truck.

Stringing rollers (pulleys) attached to the end of the insulator string would allow the conductor to be threaded from structure to structure. Existing conductors would be fastened to the new conductors to pull in the new conductors. Splicing would occur at pulling sites. Conductors would be adjusted to proper sag and tension, and the stringing rollers would be replaced with conductor shoes, to which conductors would be secured. Temporary guard structures would be installed at prescribed locations to ensure that the conductor does not sag into roads or other locations that could result in a safety hazard.

Typically, conductor-pulling sites would be spaced at 15,000- to 20,000-foot intervals. However, distances would vary depending on the geography, topography, and sensitivity of the specific area; the length of the line; and the accessibility by equipment. Stringing equipment at each pulling site would be set up approximately 300 feet from the initial structure. Pulling sites would require an area of 0.4 acres (125 feet by 125 feet). These sites would be located along the transmission line centerline. Angle-structure pulling sites would be located outside the ROW because of the need to pull the conductor on a straight line.

3.1.1.8 Material Storage Yards

Temporary material storage yards would be required near the transmission line and public access ways. These areas would serve as reporting locations for workers, parking spaces for vehicles, and storage spaces for equipment and materials. Material storage yards would cover approximately five acres (400 feet by 540 feet). Areas would be selected that require as little clearing and grading as possible. In most cases, existing substations would serve as material storage yards. Trucks would haul structural materials such as structure steel, hardware, foundation material, spools of conductor, and shield wire into the yard. A crane or forklift would unload and transport the materials.

3.1.1.9 Cleanup and Reclamation

Waste materials and debris from construction areas would be collected, hauled away, or disposed of at approved landfill sites. Typical equipment would include a grader, front-end loader, tractor, and a dozer with a ripper.

Procedures for vegetation clearing and restoring and ROW maintenance would be implemented as standard construction and reclamation measures for the double-circuit, 230-kV transmission line. In construction areas (for example, material storage areas and temporary access roads) restoration would consist of returning disturbed areas to their natural contour, reseeding if required, installing cross drains for erosion control, and filling ditches.

3.1.1.10 Operation and Maintenance

Typical activities associated with operating and maintaining transmission lines would continue as before construction. The proposed transmission line system would operate at 230 kV. The amount of power transferred along the conductors would vary depending on seasonal and time-of-day loads, as well as other system demands. Western's power system dispatchers would direct day-to-day and emergency transmission line operation in accordance with Western's *Power System Operations Manual* (PSOM) and in cooperation with adjacent control areas and systems.

Western would maintain the proposed transmission system by monitoring, testing, and repairing equipment. Typical maintenance activities include:

- Periodic routine aerial inspections with emergency aerial inspections after storms, severe wind, lightning, or other weather factors, or reported vandalism.
- Periodic and emergency ground inspections.
- Routine maintenance to inspect and repair damaged structures, conductors, and insulators.
- Emergency maintenance to immediately repair transmission lines damaged by storms, floods, vandalism, or accidents. Emergency maintenance would involve prompt movement of crews to repair damage.
- Access road maintenance to regrade and fill gullies, clear and repair culverts, and repair erosion-control features and gates.
- Vegetation management activities including cutting, trimming, lopping, and clearing trees, brush, noxious weeds, and undergrowth.

Some land-use impacts could occur during routine maintenance activities and increase during emergencies. Western would restore damage or compensate landowners when responsible for damage. Past emergency activities have been infrequent and restricted in most cases to a small area.

3.1.2 New Transmission Line for the Proposed Action

Western would construct a new double-circuit, 230-kV transmission line from O'Banion Substation to Elverta Substation along Segments A_1 and B. Some previously discussed activities common to reconductoring also apply to building a new transmission line. These include design, existing ROW requirements, detailed siting, circuit outage, access roads, structures, conductor stringing, material storage yards, cleanup and reclamation, and operation and maintenance.

Additional requirements for building a new transmission line include:

- New ROW requirements
- Engineering surveys
- Access roads
- Excavation and foundation construction
- Structures
- Conductor stringing

Table 3-3 describes construction personnel and equipment typically required for constructing a new double-circuit, 230-kV transmission line.

3.1.2.1 New Right-of-Way Requirements

The Proposed Action would require new ROW 125 feet wide. Once the final route is determined, Western would acquire land rights in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (P.L. 91-646), as amended. Western would purchase rights through negotiations with landowners at fair market value, based on independent appraisals. Landowners would retain title to the land and could continue to use the property in ways that would be compatible with the transmission line. If good faith negotiations fail, Western would acquire the additional right-of-way through condemnation, under its eminent domain authority.

3.1.2.2 Engineering Surveys

Surveys would locate the transmission line centerline, property lines and corners; provide accurate ground profiles along the centerline; locate structures; and determine the exact locations and rough ground profiles for new access roads. Initial centerline survey work, consisting of survey control, corridor centerline location, profile surveys, and structure staking, would occur before construction. This information would help complete legal descriptions of proposed properties. Soils would be tested to determine physical properties, including the ability to support the proposed structures. Western would consult with affected landowners during the initial route selection and structure-siting process to reduce or eliminate impacts to land uses and avoid or minimize disturbance to sensitive environmental areas.

3.1.2.3 Access Roads

Existing access roads would be used where possible; however, new access roads (15 feet wide) would likely be needed, requiring an estimated 50.9 acres (Segments A_1 and G). Western would work directly with landowners to route and construct these roads with minimal impact to soils, vegetation, visual resources, and other sensitive resources. Access roads would cross perennial and intermittent streams and washes at right angles wherever possible. Some perennial or intermittent streams or wetlands could require use of timber mats for construction. Culverts would be installed to minimize maintenance and reduce soil erosion. All activities affecting floodplains and wetlands would be conducted to meet applicable Federal, state, and local standards.

Gates would be installed wherever an access road crosses an existing fence and kept closed but not locked, unless the landowners request differently. Existing fences disturbed during construction would be repaired or replaced with temporary fencing sufficient to contain livestock or reasonably accommodate other landowner concerns. After construction, Western would restore fences to preconstruction conditions.

3.1.2.4 Excavation and Foundation Construction

Minor grading and vegetation removal may be required at structure sites and staging areas. Where grading is required, topsoil would be removed and stockpiled for reclamation. After construction, Western would regrade disturbed areas to establish original contours, and then redistribute topsoil. Temporary topsoil stockpiles would be protected from erosion during construction. Any excess soil would be disposed at an approved landfill site.

Excavation for foundations would require a backhoe, front-end loader, or pressure auger. Excavation to bedrock or other suitable base material would be required. A rock drill, air compressor, or explosives may be required if rock is encountered during excavation.

Most structures would require reinforced concrete foundations. After foundation concrete is placed, a mechanical tamp would recompact soil around the foundation. Excess soil would be spread evenly around the structure base to promote site drainage away from structures. Waste cement management or washing of cement trucks would comply with EPMs. Disposal pits would be dug by backhoe at wash sites for cement trucks. Percolation of cement wastewater would be monitored for containment.

3.1.2.5 Structures

Western would use either single-pole steel or self-supporting lattice steel structures for the Proposed Action. Figures 3-9 and 3-10 illustrate the two structure types. New construction of Segments A_1 and B may require 142 double-circuit, 230-kV structures.

Structure sites would include assembly and crane-landing areas. Before construction, the areas would be cleared of vegetation and graded. Typical clearing would require 0.23 acre per structure. Long-term disturbance would be about 0.1 acre per structure. Single-pole steel structure disturbance would be slightly less per structure. Chapter 4 discussions assumed the use of lattice steel structures to establish worst-case scenario analysis for ground disturbance.

Trucks or helicopters would transport structural components to the sites. A crane would be used to erect structures. Equipment may include cranes (ground or helicopter), augers, bulldozers, bucket trucks, backhoes, air compressors, electric generators, pickup trucks and other vehicles, machinery, and equipment.

3.1.2.6 Conductor Stringing

Conductor stringing would be similar to the method described in reconductoring (Section 3.1.1.7); however, rope would be connected to the conductor and shield wire used to pull the line from structure to structure during new construction.

3.1.3 Realignments for the Proposed Action

Two locations for realignment are proposed. The first would be a 2.8-mile realignment that would occur along Segment A_1 (MP 17.4 to 20.2) near the Pleasant Grove Cemetery (Figure 3-8) requiring about 14 new double-circuit, 230-kV structures. The first 0.5 mile of Segment A_1 would be located approximately 0.6 mile east of Segment A at MP 17.9. Segment A_1 would then parallel Segment A from MP 17.9 to 20.2, and the existing double-circuit 230-kV line would be transferred to new structures. New 230-kV conductors would then be placed on existing structures. Similar activities and equipment described for new construction would be used to complete realignment.

A second realignment, Segment G would require an estimated 25 single-circuit, 230-kV structures. Using Segment G would eliminate the need for the existing Cottonwood–Roseville line (Segments F and H). An estimated 17 structures for Segments F and H would be abandoned as part of the Proposed Action (Figure 3-4).

Construction and operation and maintenance activities for the realignment would include activity elements previously discussed for new transmission line construction. The additional activity of abandonment is applicable for the second realignment described above.

3.1.3.1 Abandonment

Structures, foundations, conductors, shield wires, insulators, and hardware for abandoned transmission lines would be left in place or in some cases removed.

3.2 ALTERNATIVE 1 —RECONDUCTORING

Alternative 1 would reconductor 99.2 miles of single- and double-circuit, 230-kV transmission lines on 820 structures from O'Banion Substation to Tracy Substation along Segments A, B, C, D, and E (Figures 3-3 through 3-7). About 199 structures would be replaced. Work would occur in three phases: O'Banion Substation to Elverta Substation (Segments A and B); then Elverta Substation to Hurley Substation (Segment C); and finally, Hurley Substation to Tracy Substation (Segments D and E). Reconductoring activities for Alternative 1 would be the same as reconductoring activities described for the Proposed Action. Table 3-3 contains typical personnel and equipment requirements for reconductoring. While Alternative 1 would provide relatively less voltage support and capacity than the other action alternatives, it would relieve the system especially during periods of high load demand.

3.3 ALTERNATIVE 2 — NEW TRANSMISSION O'BANION SUBSTATION TO ELVERTA SUBSTATION

Alternative 2 is identical to the new transmission line construction and realignment activities of the Proposed Action, including new ROW (125 feet wide) and access roads (15 feet wide). Alternative 2 includes new construction of 26.6 miles of double-circuit, 230-kV transmission line between O'Banion Substation and Elverta Substation and realigning 2.8 miles near the Pleasant Grove Cemetery and five miles of the Cottonwood–Roseville transmission line (Segment G). New construction would occur along Segments A_1 and B (Figures 3-3, 3-4, and 3-8).

Alternative 2 would require an estimated 50.9 acres of new access roads. Both realignments are described in the

Proposed Action. Alternative 2 would meet the Purpose and Need by providing new transmission line between O'Banion Substation and Elverta Substation, and by providing additional voltage support for the Sacramento Area. The new line would eliminate limitations on the flow of power (generation) to Sacramento during n-1 and n-2 contingencies.[1]

3.4 ALTERNATIVE 3 —NEW TRANSMISSION ELK GROVE SUBSTATION TO TRACY SUBSTATION

Alternative 3 would require new construction of 46.2 miles of double-circuit, 230-kV transmission line from Elk Grove Substation to Tracy Substation along Segment E_1 (Figures 3-5 and 3-6). The route would parallel Western's two existing transmission lines (Hurley–Tracy No. 1 and No. 2) to the west. A new 125-foot-wide ROW adjacent to existing transmission line ROWs would contain about 225 new structures. Alternative 3 would require an estimated 85.5 acres of access roads. Alternative 3 would meet the Purpose and Need by supporting the load and thus increasing voltage support to the Sacramento area.

3.5 NO ACTION

The No Action Alternative would include operating and maintaining the existing transmission lines. Western would not build or reconductor any transmission lines in the study area relative to voltage support. Implementing this alternative would preclude most short-term environmental impacts associated with construction and reconductoring activities.

This alternative would not meet Western's Purpose and Need. Western may be unable to meet system reliability standards and its contractual obligations.

3.6 ALTERNATIVES DEVELOPMENT

Western's mission is to market and deliver reliable, cost-based hydroelectric power and related services to its customers. New power generation was eliminated as an alternative because it does not meet Western's Purpose and Need for short-term implementation. Demand-side management (DSM) and distributed generation were eliminated from detailed review because Western sells wholesale power and does not have distribution load to employ these solutions. DSM alternatives apply more to electrical distribution. Local utilities (such as SMUD) have implemented programs to decrease the electricity load during peak-use hours. Appendix A presents the details of alternatives development.

3.7 ENVIRONMENTAL PROTECTION MEASURES

EPMs have been developed by Western to reduce environmental consequences associated with construction activities. Environmental consequences for each resource area (Chapter 4) assume that the EPMs specified in Table 3-4 would be fully implemented. Western would use these practices on both public and private lands. These EPMs would be implemented consistent with regulatory and industry standards for any activity proposed.

3.8 COMPARISON OF ALTERNATIVES

Table 3-5 presents a summary comparison of effects, impacts, and environmental protection measures by resource topic for each alternative. Full discussion can be found in Chapter 4, Affected Environment and Environmental Consequences.

Table 3-4. Environmental Protection Measures

No.	Resource	Environmental Protection Measures
1	Air Quality	All requirements of those entities having jurisdiction over air quality matters would be adhered to and any permits needed for construction activities would be obtained. Open burning of construction trash would not be allowed.
2	Air Quality	Project participant would use reasonably practicable methods and devices to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants.
3	Air Quality	Visible emissions from diesel-powered equipment would be controlled.
4	Air Quality	Emissions from all off-road diesel powered equipment would not exceed 40 percent opacity for more than three minutes in any one hour.
5	Air Quality	Equipment and vehicles that show excessive emissions of exhaust gases due to poor engine adjustments or other inefficient operating conditions would not be operated until corrective repairs or adjustments were made.

[1] n-1 contingencies occur when one element of the power system (for example, one transmission circuit or one transformer) is forced out and n-2 contingencies occur when two elements of the power system (for example, two transmission circuits that are on the same structure) are forced out.